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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,052	03/01/2002	Tatsuhiko Okada	0234-0442P	8158

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BIRCH STEWART KOLASCH & BIRCH  
 PO BOX 747  
 FALLS CHURCH, VA 22040-0747

EXAMINER

DOVE, TRACY MAE

ART UNIT PAPER NUMBER

1745

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

XB

**Office Action Summary**

Application No.

10/085,052

Applicant(s)

OKADA ET AL.

Examiner

Tracy Dove

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 March 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5.                      6) ☐ Other:

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## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

The information disclosure statements (IDS) submitted on 3/17/03 and 7/7/03 have been considered by the examiner.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2, 3, 5-7 and 9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3 and 5-8 of copending Application No. 10/309,005. Although the conflicting claims are not identical, they are not patentably distinct from each other because while the claims of copending application 10/309,005 require the carbon contained in the electrodes to be "carbon fibers", the claims are not patentably distinct because the instant claims recite "carbon particle material". The term

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“carbon fiber” is not patentably distinct from “carbon particle” because carbon materials can be considered both carbon particles and carbon fibers.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bass et al., US 6,001,500.

Bass teaches a cylindrical (tubular) fuel cell comprising an anode containing an anode catalyst, a polymer electrolyte membrane and a cathode containing a cathode catalyst. The polymer electrolyte is between the anode and the cathode (abstract). The anode and cathode are gas diffusion electrodes preferably comprising carbon materials such as graphite, carbon fiber and carbon cloth (col. 2, lines 30-46). Catalyst particles are deposited onto the electrode surface and the particles may be a noble metal catalyst on carbon (col. 2, line 66-col. 3, line 3). The catalyst material is applied to the outside of the inner electrode (contacts polymer electrolyte) (col. 3, lines 28-33). The electrode and catalyst material may be applied directly to the membrane (col. 5, lines 5-7). Hydrogen gas contacts the anode (fuel electrode) and oxygen gas

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contacts the cathode (air electrode) (col. 8, lines 1-15). Each fuel cell is assembled using five layers (col. 4, lines 6-52). Figure 2 shows the cathode is provided on the outer surface of the membrane and the anode is provided on the inner surface of the membrane. The membrane has an inner diameter of up to about 2.16 mm and a thickness of 0.13 mm or less. The thickness is preferably about 0.09 mm (outer diameter of the membrane is  $2.16+0.09=2.25$  mm). Table 1 teaches the polymer electrolyte membrane fuel cell has a length of 25 cm (250 mm). The fuel cell may be used as a source of power for transportation (col. 1, lines 18-19).

Thus the claims are anticipated.

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Claims 1, 3, 4 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Muthuswamy et al., US 6,060,188.

Muthuswamy teaches a cylindrical fuel cell having a cathode 23, a cathode catalytic layer 24, a polymer electrolyte 25, an anode catalytic layer 26 and an anode 27 (abstract). The anode is located on the outer side of the membrane and the cathode is located on the inner side of the membrane (Figure 2). Alternatively, the anode 37 may be located on the inner side of the membrane and the cathode 33 located on the outer side of the membrane (Figure 3). The catalyst layer is present on the side of an electrode that faces the electrolyte. Oxidant is evenly distributed to the cathode and fuel is allowed to pass to the anode (col. 3, lines 52-67).

Thus the claims are anticipated.

»

Claims 1-6 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka, US 2002/0076586 A1.

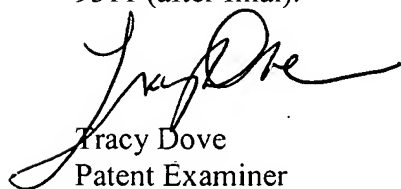
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Tanaka teaches a round column shaped fuel cell (tubular) having a fuel electrode 12, an ion exchange membrane (polymer electrolyte membrane, 0018) 13 and an oxygen electrode 14 (0053). The fuel electrode 12 is formed by a carbon particle layer in which a platinum catalyst is supported (0055). The oxygen electrode is formed by a carbon particle layer in which a platinum catalyst is supported (0057). The layers of the fuel cell may be stacked in the order: fuel electrode, ion exchange membrane then oxygen electrode from the center of the cell (0068). Hydrogen is supplied to the fuel electrode (0054) and oxygen permeates the oxygen electrode (0057). The fuel cell is useable as a powder source for portable devices (abstract). The fuel cell is portable (small).

Thus the claims are anticipated.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is (703) 308-8821. The Examiner may normally be reached Monday-Thursday (9:00 AM-7:30 PM). My supervisor is Pat Ryan, who can be reached at (703) 308-2383. The Art Unit receptionist can be reached at (703) 308-0661 and the official fax numbers are 703-872-9310 (after non-final) and 703-872-9311 (after final).



Tracy Dove  
Patent Examiner  
Technology Center 1700  
Art Unit 1745

December 11, 2003